

In the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A method for synchronizing a plurality of instances of a storage platform for a hardware/software interface system, said method comprising:

storing, at a first electronic computer system, a first relational database, the first relational database comprising a local version of an item, a first folder item, and a first relationship declaration, the first relationship declaration specifying that the local version of the item belongs to the first folder item, the local version of the item comprising a set of elements, the local version of the item comprising a change unit, the change unit including at least one element in the set of elements, the local version of the item comprising a first version number, the local version of the item conforming to a local format, the first folder item mapped to a community folder, the community folder being an abstraction that represents a shared folder with which each of the instances of the storage platform synchronizes;

executing a first storage platform instance at the first electronic computer system, the first storage platform instance being one of the instances of the storage platform, the first storage platform instance providing a storage platform application programming interface (API), the storage platform API comprising methods that, when invoked by an application, perform operations on the first relational database;

dividing said storage platform into change units;

sequentially enumerating monotonically increasing, at the first electronic computer system, the first version number whenever a value of an element in the change unit of the local version of the item changes; and tracking said changes on a per change unit basis, wherein a change unit is mapped to a community folder with which each of the plurality of instances synchronizes, each of the plurality of instances storing a mapping of the change unit from a local format to a format of the community folder, the mapping enabling synchronization of the change unit with the community folder;

receiving, at the first electronic computer system, a remote version of the item from a second electronic computer system, the second electronic computer system storing a second

relational database, the second relational database being a replica of the first relational database, the second relational database comprising a second folder item, the remote version of the item, and a second relationship declaration, the second relationship declaration specifying that the remote version of the item belongs to the second folder item, the second folder item mapped to the community folder, the remote version of the item comprising the set of elements, the remote version of the item comprising the change unit, the remote version of the item comprising a second version number, the second electronic computer system configured to monotonically increase the second version number whenever an element of the change unit of the remote version of the item changes;

when the second version number is newer than the first version number;

converting, by the first electronic computer system, the remote version of the item from a format of the community folder to the local format; and

after converting the remote version of the item, replacing, by the first electronic computer system, values of elements in the change unit of the local version of the item with values of elements in the change unit of the remote version of the item,

~~each of the plurality of instances, tracking a state of changes for that instance, as well as a state of changes for a plurality of other known instances in a sync community; and~~

~~for synchronization, identifying new changes by comparing enumerated changes for a particular instance with the state of changes for that instance;~~

wherein said multiple instances of said storage platform comprise a multi-master sync community.

2. (Currently Amended) The method of claim 1,  
wherein said change unit ~~is an Item~~ includes all of the elements in the set of elements.

3. (Currently Amended) The method of claim 1,  
wherein the [[a]] change unit includes fewer than all of the elements in the set of elements, ~~is a Property.~~

4. (Currently Amended) The method of claim 1 wherein ~~[[a]] said change unit is an individual Property of an Item, Extension, or Relationship, but does not include a Property of a~~ Nested Element in said set of elements. Item, Extension, or Relationship.

5.-7. (Canceled)

8. (Currently Amended) The method of claim 1 further comprising:  
detecting, by the first electronic computer system, conflicts between values of elements in the change unit of the local version of the item and values of elements in the change unit of the remote version of the item; and  
resolving, by the first electronic computer system, the conflicts between the values of element in the change unit of the local version of the item and the values of elements in the change unit of the remote version of the item.

9.-11. (Canceled)

12. (Currently Amended) An electronic computing system for synchronizing multiple a plurality of instances of a storage platform for a hardware/software interface system, said electronic computing system comprising:

a system memory storing:

program code; and

a first relational database, the first relational database comprising a local version of an item, a first folder item, and a first relationship declaration, the first relationship declaration specifying that the local version of the item belongs to the first folder item, the local version of the item comprising a set of elements, the local version of the item comprising a change unit, the change unit including at least one element in the set of elements, the local version of the item comprising a first version number, the local version of the item conforming to a local format, the first folder item mapped to a community folder, the community folder being an abstraction that represents a shared folder with which each of the instances of the storage platform synchronizes;

a processing unit that executes the program code, the program code, when executed by the processing unit, causes the electronic computing system to:

a subsystem for dividing said storage platform into change units;

a subsystem for sequentially enumerating monotonically increase the first version number whenever a value of an element in the change unit of the local version of the item changes; and tracking said changes on a per change unit basis, each change unit being mapped to a community folder with which each instance synchronizes, and each instance storing a community identification that identifies at least one sync partner and also storing multiple mappings of change units from a local format to a format of the community folder in order to enable synchronization with the community folder;

receive a remote version of the item from a second electronic computer system, the second electronic computer system storing a second relational database, the second relational database being a replica of the first relational database, the second relational database comprising a second folder item, the remote version of the item, and a second relationship declaration, the second relationship declaration specifying that the remote version of the item belongs to the second folder item, the second folder item mapped to the community folder, the remote version of the item comprising the set of elements, the remote version of the item comprising the change unit, the remote version of the item comprising a second version number, the second electronic computer system configured to monotonically increase the second version number whenever an element of the change unit of the remote version of the item changes;

when the second version number is newer than first version number:

convert the remote version of the item from a format of the community folder to the local format; and

after converting the remote version of the item, replace values of elements in the change unit of the local version of the item with values of the elements in the change unit of the remote version of the item,

a subsystem for tracking, for each instance, a state of changes for that instance, as well as a state of changes for a plurality of other known instances in a sync community;  
and

~~a subsystem for synchronization, identifying new changes by comparing enumerated changes for a particular instance with the state of changes for that instance;~~  
wherein said multiple instances of said storage platform comprise a multi-master sync community.

13. (Currently Amended) The electronic computing system of claim 12 wherein said change unit ~~is an Item~~ includes all of the elements in the set of elements.

14. (Currently Amended) The electronic computing system of claim 12 wherein ~~[[a]]~~ said change unit is a Property. includes fewer than all of the elements in the set of elements.

15. (Currently Amended) The electronic computing system of claim 12 wherein ~~[[a]]~~ said change unit is an individual Property of an Item, Extension, or Relationship, but does not include a Property of a Nested Element in said set of elements. Item, Extension, or Relationship.

16. (Canceled)

17. (Currently Amended) The electronic computing system of claim 12 wherein changes to an instance are uniquely enumerated based on a unique replica identification, and wherein said changes are sequentially enumerated for said instance.

18. (Canceled)

19. (Currently Amended) The electronic computing system of claim 12 wherein the program code, when executed by the processor, further causes the electronic computing system to:

detect conflicts between values of elements in the change unit of the local version of the item and values of elements in the change unit of the remote version of the item; and

resolve the conflicts between the values of element in the change unit of the local version of the item and the values of elements in the change unit of the remote version of the item, are detected and resolved at a change unit level.

20. (Currently Amended) A computer-readable medium comprising computer readable instructions for synchronizing multiple instances of a storage platform for a hardware/software interface system, said computer-readable instructions, when executed by a processor of an electronic computing system, cause the electronic computer system to:  
~~comprising instructions for:~~

~~dividing said storage platform into change units;~~

store a first relational database, the first relational database comprising a plurality of items and a plurality of relationship declarations,

the plurality of items comprising a local version of a first item, a first folder item, and a second folder item;

the local version of the first item having a plurality of elements,

the plurality of elements comprising a first version number,

the local version of the first item comprising a change unit, the change unit including at least one element in the plurality of elements;

the local version of the first item conforming to a local format;

the plurality of relationship declarations comprising a first relationship declaration and a second relationship declaration,

the first relationship declaration specifying that the local version of the first item belongs to the first folder item,

the second relationship declaration specifying that the local version of the first item belongs to the second folder item; and

an Extensible Markup Language (XML) configuration file that maps the first folder item to a community folder, the community folder being an abstraction that represents a shared folder with which each of the instances of the storage platform synchronizes;

execute an application program;

execute a first storage platform instance, the first storage platform instance being one of the instances of the storage platform, the first storage platform instance providing a storage platform application programming interface (API), the storage platform API comprising an update method that, when invoked by the application program changes a value of an element of the local version of the item;

sequentially enumerating monotonically increase the first version number whenever a value of an element in the change unit of the local version of the item changes; and tracking said changes on a per change unit basis;

receive a remote version of the item from a second electronic computer system, the second electronic computer system storing a second relational database, the second relational database being a replica of the first relational database, the second electronic computer system executing a second storage platform instance, the second storage platform instance being on the instances of the storage platform,

the second relational database comprising a third folder item, a remote version of the first item, and a third relationship declaration,

the third relationship declaration specifying that the remote version of the first item belongs to the third folder item, the third folder item mapped to the community folder,

the remote version of the first item comprising a second version number,

the second electronic computer system configured to monotonically increase the second version number whenever a value of an element in the change unit of the remote version of the first item changes;

when the second version identifier is newer than first version identifier:

convert the remote version of the first item from a format of the community folder to the local format; and

after converting the remote version of the first item, replace values of elements in the change unit of the local version of the first item with values of the elements in the change unit of the remote version of the first item,

for each instance, tracking a state of changes for that instance, as well as a state of changes for a plurality of other known instances in a sync community, each change unit being

~~mapped to a community folder with which each instance synchronizes, and each instance including a community identification that identifies at least one sync partner and also storing multiple mappings of change units from a local format to a format of the community folder in order to enable synchronization with the community folder; and~~

~~for synchronization, identifying new changes by comparing enumerated changes for a particular instance with the state of changes for that instance;~~

~~wherein said multiple instances of said storage platform comprise a multi-master sync community.~~

21. (Currently Amended) The computer-readable instructions of claim 20 wherein said change unit ~~is an~~ includes all of the elements in the set of elements. Item.

22. (Currently Amended) The computer-readable instructions of claim 20 wherein [[a]] said change unit includes fewer than all of the elements in the set of elements. is a Property.

23. (Currently Amended) The computer-readable instructions of claim 20 wherein [[a]] said change unit is an individual Property of an Item, Extension, or Relationship, but does not include a Property of a Nested Element in said set of elements. Item, Extension, or Relationship.

24.-26. (Canceled)

27. (Currently Amended) The computer-readable instructions of claim 20 wherein the program code, when executed by the processor, further causes the electronic computer system to:

detect conflicts between values of elements in the change unit of the local version of the first item and values of elements in the change unit of the remote version of the first item; and

resolve the conflicts between the values of element in the change unit of the local version of the first item and the values of elements in the change unit of the remote version of the first item. are detected and resolved at a change unit level.